



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/921,649	08/03/2001	Philip Victor Harman	006020.00011	5813

22907 7590 06/15/2005

BANNER & WITCOFF
1001 G STREET N W
SUITE 1100
WASHINGTON, DC 20001

EXAMINER

HADIDI, JON

ART UNIT	PAPER NUMBER
----------	--------------

2672

DATE MAILED: 06/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/921,649	HARMAN, PHILIP VICTOR	
	Examiner	Art Unit	
	Jon Hadidi	2672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37.CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is responsive to the Amendment(s) filed on January 25, 2005.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 10-12 are rejected under 35 U.S.C. 102(a) as being anticipated by Yokoi, U.S. Patent No. 5,682,171.

With regard to amended claim 10, the Yokoi teaches defining a depth characteristic for each said object or layer (see Yokoi, Figs. 15 and 17, depth characteristics JP and GP, respectively, and Fig. 8, layered source Image Work Memory 255; col. 12, lines 56-64; col. 13, lines 28 to col. 14, line 16) and respectively displacing each object or layer by a determined amount in a lateral direction as a function of the depth characteristic of each layer (see Yokoi, col. 2, lines 20-63; col. 3, lines 29-41; and col. 7, line 64 to col. 8, line 10), wherein at least one said layer having a plurality of objects is segmented into additional layers (Yokoi, col. 3, lines 5-20), and wherein depth characteristics for each said object or layer is embedded in said layered source (see Yokoi, Figs. 15 and 17,

Art Unit: 2672

depth characteristics JP and GP, respectively, and Fig. 8, layered source Image Work Memory 255; col. 12, lines 56-64; col. 13, lines 28 to col. 14, line 16).

With regard to claim 11, Yokoi describes duplicating each said layer to create said left and right eye images; defining a depth characteristic for each object or layer, and respectively displacing each object or layer by a determined amount in a lateral direction as a function of the depth characteristic of each layer (col. 2, lines 44-63).

With regard to claim 12, Yokoi describes said displacing of said left and right eye images is in an equal and opposite direction (col. 2, line 64 to col. 3, line 4).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3, 5-9, and 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yokoi, U.S. Patent No. 5,682,171, in view of Endo, U.S. Pub. No. US 2002/0171666.

With regard to amended claim 1, Yokoi describes defining a depth characteristic for each object or layer from the layered source (see Yokoi, Figs. 15 and 17, depth characteristics JP and GP, respectively, and Fig. 8, layered

Art Unit: 2672

source Image Work Memory 255; col. 12, lines 56-64; col. 13, lines 28 to col. 14, line 16, wherein Work Memory 255 stores a plurality of layers of backgrounds), and respectively displacing each object or layer from the layered source by a determined amount in a lateral direction as a function of the depth characteristic of each layer (col. 2, lines 20-63; col. 3, lines 29-41; and col. 7, line 64 to col. 8, line 10, wherein the background is the layered source which includes at least one layer, as defined in the preamble). Yokoi fails to explicitly describe the remaining limitations of amended claim 1. However, Endo teaches creating additional layers for at least one said layer having a plurality of objects by segmenting the objects (see Endo, Fig. 37, and paragraph [0223]).

It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to modify Yokoi to incorporate the object segmentation of Endo, because Endo provides an image interpolation method absent in Yokoi which can generate a virtual image even at an arbitrary viewpoint position. Motivation for such a combination may be found, for example, in Endo, paragraph [0007].

With regard to claim 3, the Yokoi/Endo combination describes an additional layer is created for each said object (see Yokoi, Fig. 10 and col. 10, lines 48-64).

With regard to claim 5, the Yokoi/Endo combination teaches a tag associated with each said object includes the depth characteristics for said object (Fig. 17 and col. 14, lines 4-16).

With regard to claims 6 and 7, the Yokoi/Endo combination teaches each object and layer is assigned an identifier and/or a depth characteristic, as recited in claim 6 (see Yokoi, object identifier OBJ at, for example, col. 7, line 64 to col. 8, line 10; layer identifiers BG and W0-W31 at, for example, Fig. 10 and col. 10, lines 48-64; depth characteristic JP in col. 12, lines 46-54 and depth characteristic GP in col. 14, lines 4-16); object identification may be defined as <layer identifier>, <object identifier>, and <depth characteristic>, as recited in claim 7 (see Yokoi, object identifier OBJ at, for example, col. 7, line 64 to col. 8, line 10; layer identifiers BG and W0-W31 at, for example, Fig. 10 and col. 10, lines 48-64; depth characteristic JP in col. 12, lines 46-54 and depth characteristic GP in col. 14, lines 4-16).

With regard to claim 8, the Yokoi/Endo combination teaches wherein each identifier is an alphanumeric identifier (see Yokoi, layer identifiers W0-W31 in Fig. 10 and col. 10, lines 48-64; object identifiers SPT0-SPT3 in Fig 14 and col. 12, lines 25-45).

With regard to claim 9, the Yokoi/Endo combination teaches said layer identifier is a reference to said depth characteristic (see Yokoi, col. 13, lines 53-66).

With regard to claim 13, the Yokoi teaches defining a depth characteristic for each of a plurality of layers from a layered source, wherein each layer includes at least one object (see Yokoi, col. 2, lines 20-63; col. 3, lines 29-41; col. 7, line 64 to col. 8, line 10; Fig. 8, BG memory 2251 and col. 10, lines 16-30, wherein the background is the layered source because multiple backgrounds are

Art Unit: 2672

stored in BG memory 2251, and wherein the at least one object are the displayed objects); and respectively displacing each layer by a determined amount in a lateral direction as a function of the depth characteristic of each layer (see Yokoi, col. 2, lines 20-63; col. 3, lines 29-41; and col. 7, line 64 to col. 8, line 10). Yokoi fails to explicitly describe creating additional layers from a layer having a plurality of objects by segmenting the objects, as also recited in claim 13. However, Endo teaches creating additional layers from a layer having a plurality of objects by segmenting the objects (see Endo, Fig. 37, and paragraph [0223]).

It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to modify Yokoi to incorporate the object segmentation of Endo, because Endo provides an image interpolation method absent in Yokoi which can generate a virtual image even at an arbitrary viewpoint position. Motivation for such a combination may be found, for example, in Endo, paragraph [0007].

With regard to claim 14, the Yokoi/Endo combination teaches defining a depth characteristic for each object on each of a plurality of layers from a layered source (see Yokoi, Figs. 15 and 17, depth characteristics JP and GP, respectively, and Fig. 8, layered source Image Work Memory 255; col. 12, lines 56-64; col. 13, lines 28 to col. 14, line 16, wherein Work Memory 255 stores a plurality of layers of backgrounds); and respectively displacing each object by a determined amount in a lateral direction as a function of the depth characteristic of each object (see Yokoi, col. 2, lines 20-63; col. 3, lines 29-41; and col. 7, line 64 to col. 8, line 10). Yokoi fails to explicitly describe creating additional layers

Art Unit: 2672

for a layer having a plurality of objects by segmenting the objects, as further recited in claim 14. However, Endo teaches creating additional layers from a layer having a plurality of objects by segmenting the objects (see Endo, Fig. 37, and paragraph [0223]).

It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to modify Yokoi to incorporate the object segmentation of Endo, because Endo provides an image interpolation method absent in Yokoi which can generate a virtual image even at an arbitrary viewpoint position. Motivation for such a combination may be found, for example, in Endo, paragraph [0007].

3. Claims 1 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Richard, International Publication No. WO 97/24000, in view of Endo, U.S. Pub. No. US 2002/0171666.

With regard to claim 1, Richard describes defining a depth characteristic for each object or layer from the layered source (wherein the layered source includes at least one layer, as defined in the claim preamble), and respectively displacing each object or layer from the layered source by a determined amount in a lateral direction as a function of the depth characteristic of each layer (see Abstract). Richard fails to explicitly describe creating additional layers for at least one said layer having a plurality of objects by segmenting the objects, as further recited in claim 1. However, Endo teaches creating additional layers for at least

Art Unit: 2672

one said layer having a plurality of objects by segmenting the objects (see Endo, Fig. 37, and paragraph [0223]).

It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to modify Richard to incorporate the object segmentation of Endo, because Endo provides an image interpolation method absent in Richard which can generate a virtual image even at an arbitrary viewpoint position. Motivation for such a combination may be found, for example, in Endo, paragraph [0007].

With regard to claim 4, Richard describes wherein at least one said object is stretched to enhance the stereoscopic image (page 12, line 10 to page 13, line 6).

Response to Arguments

Applicant's arguments with respect to claims 1 and 3-9 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments with respect to claims 10-12 are unpersuasive since claims 10-12 do not depend on claims 1 or 3-9.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 2672

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jon Hadidi whose telephone number is 571-272-7641. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on (571)272-7664. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2672

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JH



MICHAEL RAZAVI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600